Golder Associates Inc.

1630 Heritage Landing, Suite 103
St. Charles, MO USA 63303
Telephone (314) 936-1554
Fax (314) 936-1135

Golder Associates

March 7, 1996

Our Ref: 943-2848.601

U.S. Environmental Protection Agency
Region VII
WSTM/SPFD/REML
726 Minnesota Avenue
Kansas City, Kansas 66101

Attention: Mr. Steven Kinser

RE: MONTHLY PROGRESS REPORT - FEBRUARY 1996
WEST LAKE (BRIDGETON) LANDFILL
OPERABLE UNIT 2 RI/FS

Dear Mr. Kinser:

On behalf of Laidlaw Waste Systems, Inc. (Laidlaw), Golder Associates Inc. (Golder) has prepared the following progress report in accordance with Section XIII, Paragraph 39 of the Administrative Order on Consent (Consent Order), EPA Docket No. VII-94-F-0025. The progress report describes activities conducted in February 1996.

I. ACTIONS TAKEN TO COMPLY WITH THE CONSENT ORDER

Activities conducted in February include collection of monthly water levels. Water level monitoring conducted in February included piezometers and wells adjacent to the Operable Unit 1 area, in addition to the Operable Unit 2 piezometers, wells, and leachate risers.

II. VALIDATED RESULTS RECEIVED

Water Levels

The attached Tables 1 and 2 list water level data collected from the piezometers and wells. Table 1 presents data for OU-2 monitoring points, Table 2 presents data for OU-1 monitoring points. Table 1 has been revised based on a previous calculation error that affected the results for staff gauges 8 and 9.

Total Organic Carbon

Validated soil sampling results are summarized in this monthly report. The soil sampling activities included determination of Total Organic Carbon (TOC) concentrations for the alluvium near Operable Unit 2. Laboratory analyses were conducted by Quanterra Environmental Services, North Canton, Ohio. Laboratory data were validated by Golder Associates Inc. personnel. A memorandum discussing the validity of the results is included as Attachment 1.

TOC samples were collected from background alluvial piezometer locations PZ-300-AS and PZ-300-AD, piezometers PZ-302-AS and PZ-302-AI installed immediately south of the landfill in an assumed upgradient location, piezometer PZ-305-AI installed near the underground storage tank site west of the active landfill, leachate riser LR-103 installed on the northeastern crest of the inactive landfill, and leachate riser LR-104 installed adjacent to PZ-305-AI to monitor shallow alluvial groundwater conditions.

Table 3 presents the TOC sample results. Based on the data, TOC results from assumed background locations vary from 240 mg/kg (ppm) to 4,600 mg/kg. The majority of the results range between 240 and 480 mg/kg. The highest TOC result of 20,000 mg/kg was obtained from LR-103, which was installed through solid waste and most likely represents typical TOC concentrations immediately underlying the inactive landfill.

The TOC results will be discussed in more detail in the "Site Characterization Report".

Volatile Organic Carbon and Total Petroleum Hydrocarbons

In addition to TOC sampling, Laidlaw Waste Systems (Laidlaw) authorized analysis of volatile organic compounds (VOCs) and Total Petroleum Hydrocarbons (TPH) from soil samples collected during drilling of soil borings SB-01 through SB-04 and piezometer PZ-303-AS (see Figure 4-4 of the final "Field Sampling Plan" for approximate drilling locations. These drilling locations were selected to more accurately determine the extent of potential petroleum impacts previously inferred based on historic data collected from monitoring well MW-F2. Soil boring SB-01 and piezometer PZ-303-AS were drilled closest to MW-F2, with the other soil borings at various distances from MW-F2.

As described in the "Field Sampling Plan", the analyses were to include TPH, plus Benzene, Toluene, Ethylbenzene, and Xylenes (referred to collectively as BTEX). However, to provide a more complete data set for evaluating the presence or absence or organic compounds, the volatile organic analyses were increased to include all of SW-846 parameters rather than only BTEX.

Table 4 presents the results of the VOC and TPH analyses. VOC impacts, where present, were determined to be limited to toluene, ethylbenzene, and xylenes; benzene was not

detected. Furthermore, volatile organic compounds were present only in soil boring SB-01 and piezometer PZ-300-AS at the two depths sampled. The limited number of detected VOCs and their limited distribution indicate that the soil impacts near MW-F2 are localized.

TPH analyses were provided by the laboratory for both the volatile (light) fraction and the extractable (heavy) fraction of petroleum. TPH was not detected in two samples collected from SB-03, but was detected in the other samples. The analytical laboratory determined that the extractable hydrocarbons consist of diesel-range hydrocarbons in the samples collected from PZ-300-AS, SB-01, and SB-04. The hydrocarbons consist of motor oil-range hydrocarbons in the samples collected from SB-02.

The concentrations of TPH range from 23 mg/kg (ppm) to 15,000 mg/kg. The highest TPH concentrations were detected in one of the two samples collected from PZ-303-AS, and the sample collected from SB-01. The TPH concentrations decreased significantly with depth in PZ-303-AS and with distance (SB-02, SB-03, SB-04) from MW-F2. The TPH results confirm the VOC results which indicate that impacts near MW-F2 are localized.

The TPH results will be discussed and evaluated in detail in the "Site Characterization Report".

III. WORK PLANNED DURING MARCH AND APRIL 1996

Activities planned for March and April 1996 include the following:

- Continuation of the Technical Memorandum on Physical Characterization;
- Evaluation and validation of off-schedule groundwater quality sampling results, when received; and,
- Collection of monthly water levels.

In a letter dated January 17, 1996, EPA granted an extension of the due date for the Physical Characterization memorandum to 60 days after validated data from the OU-1 wells become available. To date, validated data from the OU-1 wells are not available.

IV. MATERIAL PROBLEMS ENCOUNTERED OR ANTICIPATED MATERIAL DELAYS

No material delays were encountered in January, and none are anticipated for March or April.

If you have any questions or comments, please contact Mr. Doug Borro, the Respondent's designated Project Coordinator, or the undersigned.

Sincerely,

GOLDER ASSOCIATES INC.

Ward E. Herst, CPHG, CEM
Program Director - Hydrology
Associate

WEH/cl

cc: Michael Hockley, Esq., Spencer Fane Britt & Browne
Doug Borro, Laidlaw Waste Systems, Inc.
Doug Wagner, Laidlaw Waste Systems, Inc.
Larry Giroux, Laidlaw Waste Systems, Inc.
Jalal El-Jayyoufi - Missouri Department of Natural Resources

TABLE 1
GROUNDWATER, LEACHATE AND SURFACE WATER ELEVATION SUMMARY
WEST LAKE LANDFILL OU-2

Monitoring Location	Date								
	June 27, 1995	July 26, 1995	Aug. 26, 1995	Sept. 30, 1995	Oct. 30, 1995	Nov. 18, 1995	Dec. 14, 1995	Jan. 4, 1996	Feb. 6, 1996
	Groundwater Elevation								
Shallow Alluvial Piezometers									
PZ-112-AS	436.12	435.12	434.67	432.84	432.13	431.84	431.15	431.05	430.46
PZ-113-AS	435.64	435.30	434.63	432.91	432.19	431.81	431.18	431.07	430.47
PZ-114-AS	435.94	435.35	434.90	433.06	432.11	431.93	431.23	431.20	430.67
PZ-205-AS	434.41	434.33	434.06	432.52	431.90	431.66	431.19	430.98	430.54
PZ-207-AS	435.94	435.41	434.91	433.02	432.29	431.87	431.19	431.10	430.52
PZ-300-AS	NA	NA	NA	NA	436.41	435.50	434.94	434.11	434.03
PZ-302-AS	NA	NA	NA	NA	432.34	432.08	431.86	431.34	430.80
PZ-303-AS	NA	NA	NA	NA	432.19	432.01	431.74	431.28	430.64
PZ-304-AS	NA	NA	NA	NA	432.19	431.91	431.63	431.13	430.52
Intermediate Alluvial Piezometers									
PZ-302-AI	NA	NA	NA	NA	432.16	432.00	431.73	431.27	430.66
PZ-304-AI	NA	NA	NA	NA	432.19	431.98	431.66	431.16	430.57
PZ-305-AI	NA	NA	NA	NA	431.10	431.80	431.34	431.03	430.56
Deep Alluvial Piezometers									
PZ-113-AD	435.68	435.13	433.74	432.89	432.28	431.82	431.18	431.03	430.44
PZ-300-AD	NA	NA	NA	NA	432.89	432.78	432.41	432.12	431.44
St. Louis/Upper Salem Hydrologic Unit Piezometers									
PZ-100-SS	405.36	416.06	415.23	414.35	414.04	413.85	413.68	413.63	413.46
PZ-101-SS	393.23	394.58	393.37	390.00	388.96	387.58	386.76	387.48	385.28
PZ-102-SS	413.54	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive

Notes provided on page 4

TABLE 1
GROUNDWATER, LEACHATE AND SURFACE WATER ELEVATION SUMMARY
WEST LAKE LANDFILL OU-2

Monitoring Location	Date								
	June 27, 1995	July 26, 1995	Aug. 26, 1995	Sept. 30, 1995	Oct. 30, 1995	Nov. 18, 1995	Dec. 14, 1995	Jan. 4, 1996	Feb. 6, 1996
	Groundwater Elevation								
St. Louis/Upper Salem Hydrologic Unit Piezometers--Continued									
PZ-102R-SS	403.09	424.30	424.87	422.80	421.99	421.63	420.78	420.59	404.70
PZ-103-SS	363.03	373.02	363.73	360.95	360.69	361.05	360.15	361.47	362.30
PZ-104-SS	340.67	360.04	366.22	361.01	360.34	360.41	360.55	361.53	365.31
PZ-105-SS	336.26	339.83	352.45	346.80	343.23	342.76	342.53	343.21	357.52
PZ-106-SS	359.72	357.60	364.20	349.41	350.41	350.01	342.64	343.70	359.94
PZ-107-SS	434.52	434.30	434.00	432.36	431.91	431.57	431.12	430.90	430.24
PZ-108-SS	368.99	368.99	367.02	352.14	355.88	356.78	347.44	346.47	351.88
PZ-109-SS	370.70	373.74	360.45	359.20	354.64	355.12	351.80	350.40	350.84
PZ-110-SS	413.76	433.53	433.27	431.57	430.93	430.58	430.11	429.87	429.09
PZ-113-SS	435.70	435.23	434.79	433.00	432.29	431.94	427.33	431.16	430.58
PZ-115-SS	426.75	424.83	424.18	417.06	413.09	411.71	407.86	414.34	413.23
PZ-116-SS	NA	346.79	356.46	338.17	333.08	331.43	330.07	330.68	351.62
PZ-200-SS	415.05	415.45	415.59	414.38	413.34	412.78	412.91	412.73	412.42
PZ-201-SS	456.42	455.53	454.86	453.55	453.14	452.98	452.80	452.45	452.24
PZ-201A-SS	415.03	414.63	414.38	412.94	412.85	412.57	412.12	412.13	411.92
PZ-202-SS	444.36	444.78	444.14	441.33	440.20	439.70	439.13	438.64	441.28
PZ-203-SS	(Dry)	(Dry)	(Dry)	(Dry)	(Dry)	(Dry)	(Dry)	(Dry)	(Dry)
PZ-204-SS	442.82	441.49	438.10	431.82	429.64	430.57	429.71	431.58	440.83
PZ-204A-SS	NA	405.65	405.53	404.05	403.82	403.55	403.45	403.78	405.38
PZ-205-SS	424.46	424.04	423.45	421.75	421.69	421.28	420.50	420.28	419.93

Notes provided on page 4

TABLE 1
GROUNDWATER, LEACHATE AND SURFACE WATER ELEVATION SUMMARY
WEST LAKE LANDFILL OU-2

Monitoring Location	Date								
	June 27, 1995	July 26, 1995	Aug. 26, 1995	Sept. 30, 1995	Oct. 30, 1995	Nov. 18, 1995	Dec. 14, 1995	Jan. 4, 1996	Feb. 6, 1996
	Groundwater Elevation								
St. Louis/Upper Salem Hydrologic Unit Piezometers--Continued									
PZ-206-SS	420.04	419.04	418.22	415.49	415.34	415.19	NA	414.13	413.86
PZ-208-SS	NA	436.44	435.60	431.63	429.86	428.83	426.97	428.60	428.93
PZ-300-SS	NA	NA	NA	NA	428.62	428.32	427.80	427.50	427.88
PZ-301-SS	NA	NA	NA	NA	358.09	357.19	384.19	395.65	407.66
PZ-1201-SS	NA	392.33	365.30	377.98	375.25	374.88	374.88	376.00	378.52
MW-1206	368.19	367.12	367.86	351.67	361.31	362.46	348.15	348.17	359.29
Deep Salem Piezometers									
PZ-100-SD	394.61	370.68	381.79	366.35	363.78	364.43	356.68	355.04	363.01
PZ-104-SD	359.05	356.64	362.97	344.33	341.68	341.90	339.05	343.15	361.88
PZ-106-SD	358.64	353.52	361.98	348.44	346.40	347.38	340.60	341.52	356.82
PZ-111-SD	373.70	423.87	428.55	432.22	431.90	431.47	430.93	430.63	430.06
MW-1204	333.83	330.01	357.27	305.57	324.30	303.18	309.24	306.96	356.52
MW-1205	352.28	357.38	296.81	341.10	347.04	317.88	337.07	339.32	350.89
Keokuk Piezometers									
PZ-100-KS	438.17	438.93	437.84	434.72	433.90	433.67	432.84	432.69	435.10
PZ-104-KS	444.63	444.74	444.27	441.98	440.99	440.77	440.42	440.22	443.10
PZ-106-KS	442.18	442.51	442.48	440.30	439.47	439.02	438.82	438.61	440.70
PZ-111-KS	441.58	441.91	442.01	440.39	439.68	439.14	438.85	438.77	440.04

Notes provided on page 4

TABLE 1
GROUNDWATER, LEACHATE AND SURFACE WATER ELEVATION SUMMARY
WEST LAKE LANDFILL OU-2

Monitoring Location	Date								
	June 27, 1995	July 26, 1995	Aug. 26, 1995	Sept. 30, 1995	Oct. 30, 1995	Nov. 18, 1995	Dec. 14, 1995	Jan. 4, 1996	Feb. 6, 1996
	Leachate Elevation								
Leachate Risers									
LR-100	NA	NA	NA	NA	450.68	450.42	449.90	449.77	450.14
LR-102	NA	NA	NA	NA	454.07	452.38	452.31	452.28	452.18
LR-103	NA	NA	NA	NA	432.10	431.86	431.32	431.00	430.58
LR-104	NA	NA	NA	NA	432.04	432.20	431.35	431.01	430.56
LR-105	NA	NA	NA	NA	451.81	452.44	452.38	453.39	453.40
	Surface Water Elevation								
Staff Gauges									
SG-8	NA	NA	NA	NA	433.92	433.54	432.75	433.68	433.98
SG-9	NA	NA	NA	NA	433.92	433.54	432.75	433.68	433.98

NOTES:

NA = Not available. Water level data was not collected on the indicated date either because the piezometer, leachate riser, or staff gauge had not yet been installed, or development was not yet completed. An equipment malfunction prevented measurement of the water level in PZ-206-SS on December 14, 1995.

TABLE 2
GROUNDWATER ELEVATION SUMMARY
EXISTING MONITORING WELLS
WEST LAKE LANDFILL OU-2

Monitoring Location	Date		
	Dec. 14, 1995	Jan. 4, 1996	Feb. 6, 1996
	Groundwater Elevation		
Shallow Alluvial Monitoring Wells			
S-1	431.19	430.89	430.37
S-5	431.31	431.03	430.56
S-8	431.01	430.84	430.36
S-10	431.17	431.11	430.39
S-51	431.91	431.59	431.15
S-53	431.79	431.30	430.77
S-61	431.20	430.85	430.39
S-75	432.76	432.18	432.21
S-80	434.61	434.24	434.18
S-82	431.36	431.03	430.42
S-84	NM	430.36	427.51
S-88	NM	431.05	430.62
MW-F1S	431.36	431.04	461.35
MW-101	428.33	430.79	430.33
MW-102	431.14	431.02	430.38
MW-103	431.59	431.05	430.50
MW-104	431.74	431.25	430.64
MW-107	441.68	442.15	441.44
MW-F3	431.15	430.84	430.52
Intermediate Alluvial Monitoring Wells			
I-2	431.01	430.94	430.35
I-4	431.25	430.95	430.53
I-7	435.07	434.84	434.33
I-9	431.27	431.01	430.41
I-11	430.87	430.92	430.41
I-50	432.38	432.09	431.46
I-62	431.03	430.85	430.34
I-65	431.08	430.76	430.42
I-66	431.13	430.87	430.53
I-67	431.18	431.03	431.18
I-68	431.18	431.05	430.62
I-73	430.71	430.39	430.02

TABLE 2
GROUNDWATER ELEVATION SUMMARY
EXISTING MONITORING WELLS
WEST LAKE LANDFILL OU-2

Monitoring Location	Date		
	Dec. 14, 1995	Jan. 4, 1996	Feb. 6, 1996
	Groundwater Elevation		
Deep Alluvial Monitoring Wells			
D-3	431.30	430.89	430.50
D-6	431.14	430.83	430.29
D-12	431.15	430.93	430.39
D-13	431.14	430.91	430.44
D-14	429.35	429.15	428.93
D-81	431.81	431.29	430.72
D-83	431.02	430.71	430.29
D-85	424.79	431.02	430.61
D-87	431.73	430.94	430.43
D-93	429.88	429.56	428.96
MW-F1D	428.29	431.01	430.55

NM = Not measured

TABLE 3
LAIDLAW OU-2 RI/FS
SOIL ANALYSIS ANALYTICAL RESULTS

PARAMETERS	BOREHOLE DESIGNATION (Sampling Interval)								
	PZ-300-AD (40.5'-41.0')	PZ-300-AS (16.0'-16.5')	PZ-302-AS (17.5'-18.0')	PZ-302-AI (35.5'-36.0')	PZ-304-AS (23.5'-24.0')	PZ-304-AI (35.5'-36.0')	PZ-305-AI (50.0'-52.0')	LR-103 (32.5'-33.0')	LR-104 (30.5'-31.0')
	RESULT								
Total Organic Carbon	420	4,600	240	360	420	360	360	20,000	480

Notes:

Results in mg/kg Milligrams per Kilogram = ppm

NA = not analyzed

Analytical results provided by Quanterra Environmental Services

Differences in reporting limits are due to dilution factors

TABLE 4
LAIDLAW OU-2 RI/FS
SOIL ANALYSIS ANALYTICAL RESULTS

PARAMETERS	BOREHOLE DESIGNATION (Sampling Interval)							
	PZ-303-AS (17.0')	PZ-303-AS (25.0' - 25.5')	SB-01 (16.0' - 18.0')	SB-02 (4.0' - 6.0')	SB-02 (14.0' - 16.0')	SB-03 (6.0' - 8.0')	SB-03 (10.0' - 12.0')	SB-04 (8.0' - 10.0')
	RESULT							
Chloromethane	<2.5	<1.2	<25	<0.01	<0.01	<0.01	<0.01	<0.01
Bromomethane	<2.5	<1.2	<25	<0.01	<0.01	<0.01	<0.01	<0.01
Vinyl Chloride	<2.5	<1.2	<25	<0.01	<0.01	<0.01	<0.01	<0.01
Chloroethane	<2.5	<1.2	<25	<0.01	<0.01	<0.01	<0.01	<0.01
Methylene Chloride	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
Acetone	<5.0	<2.5	<50	<0.02	<0.02	<0.02	<0.02	<0.02
Carbon Disulfide	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethene (total)	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
Chloroform	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
2-Butanone	<5.0	<2.5	<50	<0.02	<0.02	<0.02	<0.02	<0.02
1,1,1-Trichloroethane	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
Carbon Tetrachloride	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
Bromodichloromethane	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloropropane	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
cis-1,3-Dichloropropene	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethene	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
Dibromochloromethane	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
Benzene	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
trans-1,3-Dichloropropene	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005

TABLE 4

LAIDLAW OU-2 RI/FS

SOIL ANALYSIS ANALYTICAL RESULTS

PARAMETERS	BOREHOLE DESIGNATION (Sampling Interval)							
	PZ-303-AS (17.0')	PZ-303-AS (25.0' - 25.5')	SB-01 (16.0' - 18.0')	SB-02 (4.0' - 6.0')	SB-02 (14.0' - 16.0')	SB-03 (6.0' - 8.0')	SB-03 (10.0' - 12.0')	SB-04 (8.0' - 10.0')
	RESULT							
Bromoform	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
4-Methyl-2-pentanone	<5.0	<2.5	<50	<0.02	<0.02	<0.02	<0.02	<0.02
2-Hexanone	<5.0	<2.5	<50	<0.02	<0.02	<0.02	<0.02	<0.02
Tetrachloroethene	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
Toluene	5.3	<0.62	310	<0.005	<0.005	<0.005	<0.005	<0.005
Chlorobenzene	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	10	<0.62	24	<0.005	<0.005	<0.005	<0.005	<0.005
Styrene	<1.2	<0.62	<12	<0.005	<0.005	<0.005	<0.005	<0.005
Xylenes (total)	54	0.82	120	<0.005	<0.005	<0.005	<0.005	<0.005
Total Petroleum Hydrocarbons (volatile fraction)	2,000	160	6,700	<0.10	<0.10	<0.10	<0.10	<0.10
Total Petroleum Hydrocarbons (extractable fraction)	12,000	160	15,000	32	24	<10	<10	23
Total Organic Carbon	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Results in mg/kg Milligrams per Kilogram = ppm

NA = Not analyzed

Analytical results provided by Quanterra Environmental Services

Differences in reporting limits are due to dilution factors

Results above detection are shaded

ATTACHMENT 1

VALIDATION MEMORANDUM

MEMORANDUM

TO: Ward Herst February 26, 1996

FR: Jay Corgiat/Keith Bodger JC

RE: Data Validation, Laidlaw Bridgeton Landfill, MO

This memorandum presents the findings of the data validation performed on the analytical results for soil samples collected in September and October 1995 from the Bridgeton Landfill, Missouri. The following laboratory results were validated.

Eleven soil samples collected between 9/24/95 and 10/5/95 were analyzed for VOC's by SW846 method 8260, extractable petroleum hydrocarbons and volatile petroleum hydrocarbons by SW846 method 8015 modified, total residues as percent solids by hydrocarbons by EPA-600 method 160.36 modified, and total organic carbons by Standard Methods of Chemical Analysis (6th edition, 19630. The sample delivery group number was A5J100122;

Three soil samples collected between 10/17/95 and 10/20/95 were analyzed for total organic carbon by Standard Methods of Chemical Analysis (6th Edition, 1963). The sample delivery group number was A5J2603130;

Three soil samples collected on 10/9/95 were analyzed for VOC's by SW846 method 8260, extractable petroleum hydrocabons and volatile petroleum hydrocarbons by SW846 method 8015 modified and total residues as percent solids by EPA-600 method 160.3 modified. The sample delivery group number was A5J100144.

Analyses were performed by Quanterra Environmental Services, North Canton, Ohio.

Chain of Custody Forms

The chain of custody forms were found properly completed. Also, samples were analyzed by the methods indicated on the chain of custody forms.

Holding Time

Samples were extracted and analyzed within the specified holding times.

Quality Control

The following were noted during the data validation:

The appropriate quality control results were reported for the sample delivery groups.

Acetone was detected in the method blank for QC batch 5293149 at a concentration of 9.7 ug/kg. In accordance with USEPA data validation guidelines, the acetone

concentration of 15 ug/kg detected in sample SB-04 (8'-10') was qualified as ND (not detected) at a reporting limit of 20 ug/kg.

MS/MSD percent recoveries and relative percent differences (RPD) were within the specified allowable ranges.

Surrogate recoveries were within the acceptable limits.

Duplicate samples were not required by the QAPP.